

**ROBUST NP-BASED DATA FORWARDING TECHNIQUES THAT TOLERATE
FAILURE OF CONTROL-BASED APPLICATIONS**

ABSTRACT OF THE DISCLOSURE

5 In a network environment including one or more network processing (NP) devices
implementing for communicating packets, each NP device supporting a forwarding table
comprising entries to enable forwarding of received data packets from a source device to
a destination device according to a routing protocol via a network connection, the
10 network device routing receiving updated forwarding table entries from one or more
network control devices executing routing protocol applications, a system and method for
updating forwarding table entries comprises: generating for each forwarding table entry
update, a data structure indicating identification of the routing protocol application and a
version of a particular routing protocol application instance generating the entry update,
15 the data structure received by the forwarding table and incorporated within a respective
forwarding table entry; identifying for deletion forwarding table entries having data
structures matching a designated selection criteria; and, deleting the designated
forwarding table entries. By doing this old forwarding table entries in the forwarding
table are updated efficiently without disrupting packet forwarding process.

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